"Regulatory Policy Roundtable: Implications of the 1992 Clean Air Act Amendments," PRAIRIE, Urbana, November 1992.

"Regulatory Policy Roundtable: Demand Side Management," PRAIRIE, Chicago, October 1992.

PRAIRIE, Program for Research on American and International Regulatory Issues and Environment," Instititute of Government and Public Affairs, University of Illinois, 1992.

"World Bank Conference on Regulations, Institutions and Economic Efficiency: I," Berkeley, June 1992.

"Workshop on Electricity Regulation in the Southern Cone," CERES, Montevideo, May 1991.

"Conference on The Economics and Politics of Administrative Law and Procedure, Allerton House, University of Illinois, 1991, published in the *Journal of Law, Economics and Organization*, Vol. 8, No. 1, 1992.

"Fulbright/CERES Conference on Institutions, Transaction Costs and Development," July 1990.

"Fourth Carleton Summer Industrial Organization Seminar," Ottawa, July 1990.

"Fulbright/CERES Symposium on the U.S. Deregulatory Experience," August 1989.

"Ameritech Lecture Series on Regulation," University of Illinois, 1988-.

"Conference on Empirical Approaches to Market Power," Federal Trade Commission, Summer 1988, special issue, *Journal of Law and Economics*, December 1989.

"Illinois Seminar on the Political Economy of Institutions," University of Illinois at Urbana-Champaign, 1987-

"Working Papers Series on the Political Economy of Institutions," BEBR, University of Illinois, at Urbana-Champaign, 1987-.

"Conference on the Political Economy of Institutions," Hoover Institution, Stanford University, February 1986.

"Conference on the Economics of Organization," University of Pennsylvania, June 1984.

REFEREE WORK

Journal of Political Economy, Journal of Law and Economics, Journal of Law, Economics and Organization, Bell Journal of Economics, Rand Journal of Economics, Quarterly Journal of Economics, Economic Inquiry, National Science Foundation, Tinker Foundation, Review of

Economics and Statistics, International Journal of Industrial Organization, Journal of Industrial Economics, International Economic Review, Economic Journal, Research in Law and Economics, Mathematical and Computer Modelling, American Bar Foundation Research Journal, Journal of Policy Analysis and Management, American Economic Review, Transportation Journal, Journal of Economic Development.

PRESENTATIONS: 1986-94

CONFERENCES:

- Annual Meetings of the American Law and Economics Association, May 1994.
- POWER Conference on Electricity Transmission, Oakland, May 1994.
- World Bank Conference on Institutional Economics and Development, February 1994.
- NBER Conference on Industrial Organization, February 1994, Palo Alto.
- CITI conference on The Economics of Networks, New York, New York, November 1993.
- Second Conference of the Wallis Institute on Political Economy, Rochester University, October 1993.
- "Telecommunications Policy Research Conference," Salomons Island, Maryland, October 1993.
- "CRS-PRAIRIE Conference on Open Access to Transmission Networks," Oak Brook Hills, Chicago, May 1993.
- "International Comparison of Electricity Regulation," Toulouse, France, May 1993.
- "Annual Bank Conference on Development Economics," Washington, DC, May 1993.
- "World Bank Conference on Regulations, Institutions and Economic Efficiency: II," San Diego, February 1993.
- Winter Meetings of the AEA, Anaheim, January 1993.
- Inaugural Conference of the Wallis Institute on Political Economy, Rochester University, November 1992.
- Conference on "Privatization and Regulation in Latin America," University of Illinois, Urbana-Champaign, November 1992.
- Conference on "Regulating Regulators," Duke Law School, November 1992.
- Conference on Empirical Methods in Industrial Organization, Toulouse, France, October 1992.
- "Telecommunications Policy Research Conference," Salomons Island, October 1992.
- International Seminar on Deregulation, Brazilia, August 1992.
- World Bank Conference on "Regulations, Institutions and Economic Efficiency," Berkeley, June 1992.
- NBER Spring 1992 Industrial Organization Conference, Cambridge.
- Innovative Approaches to Energy and Environmental Planning In California, POWER, Sacramento, April 1992.
- Public Choice and Economic Science Association Meetings, New Orleans, March 1992.
- Transmission Access Workshop, POWER, St. Helena, November 1991.
- Xth Annual Meetings of the Latin American Chapter of the Econometric Society, Punta del Este, Uruguay, August 1991.
- Annual Meetings of the Western Economics Association, Seattle, June 1991.
- First Annual Conference of the American Law and Economics Society.
- Conference on "Political Economy of Regulation, Privatization and Deregulation," the World Bank, May 1991.

- Conference on "Electricity Regulation in the Southern Cone," CERES, Montevideo, Uruguay.
- Conference on the "Economics and Politics of Administrative Law and Procedure," Allerton House, May 1991.
- National Bureau of Economic Research "Conference on Industrial Organization," Cambridge, April 1991.
- Annual Conference of the Public Choice Society and of the Economic Science Association, New Orleans, March 1991.
- "Seminar on Airline Economics," Office of the Secretary of Transportation, Washington, DC, February 1991.
- "Telecommunications Policy Research Conference," Airlie House, Virginia, September 1990.
- "Annual Conference of the European Association of Research in Industrial Economics," Lisbon, September 1990.
- "Annual Meetings of the European Economic Association," Lisbon, September 1990.
- "Sixth World Congress of the Econometric Society," Barcelona, August 1990.
- "Fourth Carleton Summer Industrial Organization Conference," Ottawa, July 1990.
- "NBER Conference on Topics in Industrial Organization," July 1990.
- "Western Economic Association Meetings," July 1990.
- "CERES/Fulbright Conference on Institutions and Development," Montevideo, June 1990.
- "Carnegie Mellon Conference on Political Economy," May 1990.
- "Organization of Political Institutions," Yale Law School, April 1990.
- "Understanding and Improving Public Decisionmaking," IGPA, April 1990.
- "Energy Pricing," Columbia University, April 1990.
- "NBER Conference on Political Economics," Boston, February 1990.
- "AEA Winter Meetings," December 1989.
- "Econometric Society Winter Meetings," December 1989.
- "Fulbright/CERES Symposium on the U.S. Experience on Deregulation," August 1989.
- "Carnegie Mellon Conference on Political Economy," discussant, May 1989.
- "Constitution, Property Rights and Indian Economics," University of Montana, Summer 1989.
- "Western Economic Association Meetings," Summer 1989.
- "Econometric Society Summer Meetings," Ann Arbor, Summer 1989.
- "AEA Winter Meetings," December 1988.
- "Econometric Society Winter Meetings," December 1988.
- "Econometric Approaches to Market Power," FTC, Washington DC, July 1988.
- "Antitrust and Efficiency: 100 Years of the Sherman Act," University of California, Berkeley, October 1988.
- "Deregulation and Technological Change," ITAM, Mexico City, October 1988.
- "Carnegie Mellon Conference on Political Economy," May 1988.
- "Econometric Society Winter Meetings," December 1987.
- "Sequoia Institute Conference on Informal Markets," Washington, DC, October 1987.
- "IDB Conference on Latin America in the Emerging Global Information Economy," Sao Paulo, Brazil, November 1987.
- "Summer Meetings of the Econometric Society," Berkeley, August 1987.
- "Carleton Summer Industrial Organization Conference," Carleton, July 1987.
- "Latin American meetings of the Econometric Society," August 1987.
- "Conference on Competition and Antitrust," GSB Stanford, June 1987.
- "World Bank Conference on Trade in Services," Washington, DC, July 1987.
- "Carnegie Mellon Conference on Political Economy," May 1987.

- "Winter Meetings of the Econometric Society," New Orleans, December 1986.
- "AEA meetings," New Orleans, December 1986.
- "Eastern Economic Association Meetings," Philadelphia, April 1986.
- "Conference on Politics of Insurance Crisis," San Francisco, 1986.
- "Econometric Society Meetings," July 1986.
- "World Bank Conference on Trade Liberalization," Lisbon, August 1986.
- "Conference on Public Utility Regulation," UC Berkeley, 1986.
- "Conference on Productivity," CERES, Uruguay, 1986.
- "Latin American Meetings of the Econometric Society," August 1986.
- "World Bank Conference on Trade Liberalization, Bahia, Brazil, August 1986.

WORKSHOPS AT INSTITUTIONS:

- Positive Political Theory Workshop, University of California, Berkeley, February 1994.
- Interdisciplinary Seminar, University of California, Berkeley, November 1993.
- Industrial Organization Workshop, Washington University, St. Louis, January 1993.
- Management and Strategy Workshop, Kellogg Graduate School, November 1992.
- Industrial Organization Workshop, Yale University, November 1992
- Industrial Organization Workshop, Texas A&M, October 1992.
- Political Sciences Workshop, University of California, San Diego, May 1992.
- Claremont Graduate School, March 1992.
- Industrial Organization Workshop, University of California, Berkeley, February 1992.
- QSPS Seminar, University of California, Berkeley, November 1991.
- John Hopkins University, November 1991.
- University of Southern California, Los Angeles, October 1991.
- University of Illinois, Champaign-Urbana, October 1991.
- University of California, Los Angeles, September 1991.
- University of California, Berkeley, September 1991.
- Universidad de San Andrés, Buenos Aires, September 1991.
- Merriam Laboratory for Analytical Research in Political Sciences, May 1991.
- George Mason University, February 1991.
- University of California, Irvine, November 1990.
- University of California, San Diego, May 1990
- Vanderbilt University, April 1990.
- University of Pennsylvania, April 1990.
- Indiana University, March 1990.
- MIT, Industrial Organization Workshop, February 1990.
- Purdue University, February 1990.
- Hoover Institution Collective Choice Seminar, January 1990.
- University of California Berkeley, Fall 1989.
- Joint University of Southern California/UCLA, Fall 1989.
- University of Rochester, joint Economics and Political Sciences, Fall 1989.
- University of Chicago, IO Workshop, Fall 1989.
- University of Chicago, Economic History Workshop, Fall 1989.
- University of Chicago, Public Policy Workshop, Fall 1989.
- University of Illinois Law School, Spring 1989
- Latin American Center, UIUC, Spring 1989.

- University of California, Santa Barbara, IO Workshop, Spring 1989.
- University of Arizona, IO Workshop, Spring 1989
- UCLA, IO Workshop, Spring 1989.
- Hoover Institution, Collective Choice Seminar, Winter 1989.
- University of California, Berkeley, IO Workshop, Fall 1988.
- Claremont McKenna College, IO Workshop, Fall 1988.
- USC/Caltech joint Econometrics Workshop, Fall 1988.
- University of Miami, Florida, Fall 1988.
- Carleton University, IO Workshop, Ottawa, Fall 1988.
- Toronto University, IO Workshop, Fall 1988.
- University of Chicago, IO Workshop, Fall 1988
- World Bank, Fall 1988
- Merriam Laboratory Workshop, U of I, 1987
- UC Berkeley, IO Workshop, 1987.
- Northwestern University, IO workshop, 1987
- FTC, 1987
- Justice Department, Washington, DC, 1987
- University of Maryland, IO Workshop, 1987.
- UC San Diego, Applied Micro Workshop, 1987.
- Graduate School of Business, Stanford, 1987
- University of California, Los Angeles, 1987
- University of Washington, 1986.
- University of Illinois, 1986.
- University of California, Davis, 1986.

TEACHING AT THE UNIVERSITY OF ILLINOIS:

Graduate Regulation (482): 1987/1988, 1988/1989, 1989/1990, 1990/1991, 1992/1993.

Undergraduate Regulation (288): 1987/1988.

Undergraduate Industrial Organization (389): 1989/1990.

Intermediate Micro (300): 1989/1990, 1990/1991, 1992/1993.

Agency in the Theory of Economics, Business and Politics (490): 1988/1989.

Listed in the Teachers Ranked Excellent by their Students: Spring 1991, Fall 1989, Spring 1988.

TEACHING AT THE UNIVERSITY OF CALIFORNIA, BERKELEY:

Business and Public Policy, Spring 1994.

The Economics of Political Institutions: Spring 1992, Spring 1994.

Graduate Seminar in Public Policy, Spring 1992, Fall 1993

Listed in the Dean's List for Teaching Excellence: Spring 1992.

DOCTORAL DISSERTATION COMMITTEES AT UNIVERSITY OF ILLINOIS:

- Susan McMaster.
- Nichola Dyer, Chair.
- Rafael Gely (1991), Chair, Assistant Professor of Management, Texas A&M University.
- Santiago Urbiztondo (1991), Chair, Assistant Professor of Economics, Universidad San Andres, Buenos Aires.
- Hee Soo Chung (1991), member.
- Nuelwa Netusil (1991), member.

UNIVERSITY OF ILLINOIS COMMITTEE WORK:

- 1992/1993, College Research Committee.
- 1990/1991, Advisory Committee, Economics Department.
- 1988/1989, Recruiting Committee, Economics Department.
- 1987/1988, Executive Committee, Economics Department.

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Ameritech

Anthony M. Alessi
Director
Federal Relations

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NOV 28 1994

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

November 3, 1994

Mr. William F. Caton
Acting Secretary
Federal Communications Commission
1919 M Street, NW
Room 222
Washington, DC 20554

Re: **Ex Parte Statement**
Docket No. 94-1

Dear Mr. Caton:

Ameritech is submitting in the above referenced docket the attached written ex parte statement, "Comments on Promises vs. Reality" prepared by Professor Pablo T. Spiller of the University of California at Berkeley. In this paper, Professor Spiller addresses a recent study by W. P. Montgomery and concludes that Mr. Montgomery's study should not be relied upon to analyze the relationship between incentive regulation and infrastructure improvements.

In the Commission's current review of price cap regulation for local exchange carriers, Ameritech has advocated that the Commission should eliminate the price cap sharing mechanism to create greater incentives to deploy new services and technologies in an increasingly competitive marketplace. Ameritech believes that the Commission can find substantial support for the elimination of the price cap sharing mechanism in the study by Professor Spiller submitted with Ameritech's reply comments on June 29, 1994. Professor Spiller's study empirically demonstrates that pure price cap regulation, without sharing, has a significantly greater effect in stimulating infrastructure deployment than price caps coupled with earnings sharing.

Sincerely,

Anthony M Alessi

Attachment

cc:	A. Belinfante	K. Levitz
	A. Bush	D. Nall
	F. Franklin	T. Quaile
	A. Gomez	M. Uretsky
	D. Grosh	J. Wall
	M. Katz	

COMMENTS ON

PROMISES VS. REALITY: TELECOMMUNICATIONS INFRASTRUCTURE, LEC INVESTMENT AND REGULATORY REFORM

A PAPER BY WILLIAM PAGE MONTGOMERY, AUGUST 1994

by

Pablo T. Spiller
Haas School of Business
University of California, Berkeley
and
Law & Economics Consulting Group, Inc.

I. Introduction

The study by W.P. Montgomery is an attempt to analyze the relation between incentive regulation and infrastructure investments. The author reaches the conclusion that there is no relation between the two. The author bases his conclusions on a very selective review of prior reports, and on some empirical work. The paper's research design, analysis and inferences, however, are flawed. As a consequence, the perceived policy lessons are invalid and inapplicable to the problem of incentive regulation in telecommunications, or in regulated industries in general.

The paper is flawed in several dimensions. Its research design, its analysis and inferences, and its policy recommendations are all flawed. The paper also seems to advocate a style of regulation that has never existed in the United States: complete regulatory control over investment and prices. Such control would require continuous regulatory supervision, totally eliminating any type of cost-incentives by the LECs.

Because of its flaws, the research design is geared towards the conclusion that incentive regulation has no public interest benefits. Because the paper generates very strong policy conclusions I find that it is worth discussing its shortcomings in detail. I will divide my comments in three parts: research design, analysis and inferences, and policy recommendations.

II. The Research Design is Flawed

There are six basic problems with the research design: a) the paper asks the wrong question; b) there are no "controls;" c) its review of prior analysis selectively discards studies finding positive effects to incentive regulation; d) its empirical survey is incomplete and not random; e) the empirical survey collapses all incentive regulation schemes into one, and finally, f) the measures it uses are wrong.

i. The Paper Asks the Wrong Question

The paper asks the following question: what has happened since the passage of an incentive plan, and how does it compare to what happened prior to the introduction of the plan. This is the wrong question to ask. The right question to ask is: what has happened since the introduction of the incentive plan, and *WHAT WOULD HAVE HAPPENED IF THE PLAN HAD NOT BEEN INTRODUCED?*

Thus, for example, in treating the Vermont case, the question is not whether, following the introduction of the incentive scheme, investment in gross plant (minus a factor for increase in access lines) fell or went up, but rather how would the measure have behaved if the incentive scheme HAD NOT been introduced.

> *A major methodological rule that this paper failed is: ask the right question.*

ii. The Paper's Methodology Does Not Control for Other Factors

Not only does the paper ask the wrong question, but the methodology used to answer it is also flawed. A major flaw is that the author does not control for other factors that may impact the company's decision to invest.

Local Market Conditions

This flaw is particularly damaging given the sample Montgomery chose. Consider, for example, the author's treatment of Vermont. Vermont in the early 1990s experienced a drastic recession. Yet the author compares investment in 1987-89 with 1990-92 without accounting for this factor. Furthermore, the author does not control for economic performance differential across states. States in the same RBOC region can experience large differences in macro-economic performance. (California and Texas are also states that experienced macro-economic difficulties in the early 1990s, at the same time that the incentive schemes were being put in place).

Lack of Explanatory Factors

The author compares the selected company to other RBOCs. Some of the other RBOCs also had incentive schemes, but the author chose not to consider them because of some presumed lack of information. Thus, the "control" group is inappropriate.

Even if the control group had been appropriately selected, the fact that the author does not control for local market conditions generates a fatal flaw in the analysis. A major methodological lesson that this paper brings is the need to control for as many factors as possible. The author chose to control for none. Greenstein, McMaster and Spiller (GMS),[1] on the other hand, attempt to control for the evolution of local market conditions.

> *Thus, a major methodological rule of empirical work that this paper failed is: control for explanatory variables.*

iii. The Paper Does Not Report on Studies Finding Positive Effects to Incentive Regulation

The author also reviews reports by several state regulatory agencies and by some consultants. The author concludes that "every report we obtained that examined whether a particular alternative regulation scheme resulted in more investment came to a negative conclusion. Additionally, several statistical analyses have been made using multi-state, multi-LEC data and have reached the same conclusion." (p.18). Although the paper is dated August 1994, it does not report on at least two other statistical analyses that have attempted to estimate the effect of incentive regulation on infrastructure deployment (e.g., Greenstein, McMaster and Spiller, June 1994, and Taylor, Zarkadas and Zona, 1992). For example, Taylor et al (1992) concludes that their "results indicate that adoption of incentive regulation plans is strongly associated with more rapid modernization for switching and transmission facilities and somewhat less strongly-

[1] Greenstein, S., S. McMaster and P.T. Spiller, "The Effect of Incentive Regulation on Local Exchange Companies Deployment of Digital Infrastructure," University of California, Berkeley, June 1994.

through positively- associated with the diffusion of ISDN and SS7 service platforms." (p2). The fact that the author chose not to include this paper in his survey even though it was widely distributed shows selective representation of previous reports.

iv. The Paper Uses an Incomplete Survey

The author selected a few states to perform his analysis. Unfortunately, the selection criteria is not well specified. It seems that availability of appropriate data on investment and on the nature of the regulatory regime were the main selection criteria. It is, however, not clear that investment information would properly reflect investment decisions even for those states that the author chose to consider.

Information on the regulatory regime is accessible directly from each of the state commissions. The fact that the author discarded states because he could not get an appropriate description of the plan is clearly unacceptable. In GMS we obtained information on the plans from three different types of sources: published reports, direct contacts with all commissions, and direct contacts with LECs. The author could have included more LECs if he had followed our time-consuming approach. As a consequence, the sample is incomplete, leading to incomplete analysis.

> *Thus, a major methodological rule that this paper failed is: be careful with data collection.*

v. The Paper Classifies all States in Same Incentive Scheme Type

As the author recognizes not all incentive schemes provide the same incentives. Indeed, price-cap regimes provide stronger incentives to cut costs and introduce appropriate investments than earnings-sharing schemes. The latter are a marginal deviation of rate of return, and under some circumstances may even reduce the incentives of the LECs as these schemes require a closer follow up of the LEC's performance than under the traditional rate of return regulation scheme.

For example, many such plans require quarterly or annual hearings, and automatic rebates when profits exceeded a certain level. As a consequence, the lessons that are applicable for one type of incentive scheme are not applicable to other types.

Thus, a major methodological rule of empirical work that this paper failed is: be precise in the definition of variables.

vi. The Paper Uses a Poor Choice of Infrastructure Measure

Modernization Expenses Per Access Line Is Not a Good Criterion

The paper assumes that all benefits come from capital additions. The paper distinguishes between gross capital additions and "modernization plant additions per access line." Even without discussing measurement issues (see below), there is no reason for "modernization expenses/access line" to be a good objective. This is for several reasons. First, even without changing long run quality, replacing old and expensive facilities by newer and cheaper ones will translate into a reduction in investment, although there is a reduction in costs. Second, new technology may be cheaper than older technology, and the new technology may increase the quality of service. Here again, the investment in the new technology will translate in a perceived reduction in investment. Third, reorganization of labor and existing capital reduces costs for the same service and uses existing capital in a more efficient manner, reducing investment and increasing productivity.

Indeed, simply adding capital does not necessarily increase productivity or consumer welfare. The author, however, presumes that productivity can be measured by gross plant additions, when productivity gains arise from multiple sources.

Thus, the paper uses a poor measure of productivity improvement.

Basic Problems with Plant Valuations

As the author recognizes, there are major problems in properly measuring investments, and the different jurisdictions may apply inconsistent accounting procedures. These difficulties and inconsistencies moved the author to discard Nebraska from the set of selected states. One should wonder, though, whether any of the measures of plant additions are appropriate.

First, plant valuations have to take into account the real value of "plant capital," but such a measure is difficult to develop when technology changes rapidly. The author, however, does not attempt to measure "real" additions to plant.

Second, accounting rules determine what are additions to gross plant. For example, the policy that the commission may have on work in progress may substantially affect the measure of gross plant additions in a given year.

Third, the author devises a concept of "modernization plant additions per access line." This concept is derived by first computing gross plant additions and subtracting the growth in access lines times $1,300. The author, however, recognizes that the cost of a new line varies from area to area, and in general is in the $1,200 to $2,000 range. This wide difference can produce important biases in the analysis. (Growth in access lines may not reflect the true investment in access lines, as some access lines may have to be replaced.) In GMS we directly measure physical improvements in technology rather than attempt to devise a measure of productivity increase from nominal accounting investment figures.

> *Thus, a major methodological rule that this paper fails to follow is: use physical rather than dollar measures.*

III. The Paper's Analysis and Inference Are Flawed

Not only is the design flawed, but the analysis undertaken and the inferences made from the analysis are flawed on several levels.

i. The Paper Presumes that Returns on Investment Occur in One Period

Modern telecommunications technology tends to require lumpy additions. For example, fiber optic cable is deployed expecting demand growth. If cable was deployed only for current demand, more investments will have to be undertaken when demand grows, increasing total costs. Thus, investment has to be undertaken, to some extent, ahead of demand. As a consequence, looking at consumption patterns (or at investment cost per current user) right after the investment is made is grossly inappropriate.

ii. The Paper Does not Identify Clear Criteria for Evaluating The Merits of Investments by LECs

Because the author criticizes investments that fail to have immediate demand, the author needs to have a criterion to evaluate in an ex-ante fashion the merits of the LEC's investment pattern. This is, however, most probably impossible to do for an outside observer. That, indeed, is the role of the phone company, and the point of price cap regulation is to fully delegate to the company this decision so that its shareholders totally internalize the management's decisions. Instead, as we will discuss below, the author proposes an extremely bureaucratized decision making process.

Because the author does not provide a clear criterion, we find that the phone company cannot do anything right. Consider the case of Vermont. If NET had invested in the 90/92 period, then the author would have claimed that because of the recession facing the state, the company was investing without customer demand. On the other hand, if, as eventually ocurred, the company stopped investing, then the author will fault it for backsliding on promises. The author claims that investment has to be sensitive to customer demands, nevertheless the whole approach of the paper is to evaluate LEC investments based only on additions to gross plant. Finally, the lack of clear criteria for evaluating investments, together with the fact that investment is risky, implies that evaluating investments with 20/20 hindsight will eliminate investment incentives.

IV. Policy Suggestions Are Flawed

In an uncertain economic environment, a price-cap scheme provides incentives to reduce costs. The author's recommendations require ex-ante and ex-post supervision, destroying the LEC's incentives to invest.

The four features of his recommendations are also ill-conceived: First, accounting for every future cent of investment implies eliminating incentives to cut costs. Regulatory approval of investments implies that regulators share the risk of bad decisions (whether ex-ante or ex-post). As a consequence, the company's incentives are distorted. Second, comparing investments to "business-as-usual" in a rapidly changing sector implies locking in historical patterns, which is undynamic, inefficient and distortionary. Third, not all investments generate new services. They may be undertaken to reduce costs. Finally, requiring state commissions to forecast demand as a precondition for allowing investments may have the implication of killing most projects, since such demand cannot be known in advance with precision. Risk taking is best being delegated to entrepreneurs and not to regulators. Indeed, the author assumes that the regulator knows what technology and what level of investments are needed. The author seems to discard the last thirty years of regulation research which suggests exactly the opposite.

Furthermore, the policy suggestions are based on clear misunderstandings of what incentive regulation does. First, a price-cap regime will eliminate monopoly abuses, as LECs will not be able to raise prices above some agreed index value, thus achieving the author's desired outcome of controlling monopoly rates. Second, price-caps can create a downward price trend providing customers with continuous benefits from productivity increases. Third, if rebalancing is allowed through a price-cap regime, cross-subsidies can be eliminated. Finally, because price-caps allow for rebalancing of rates, LECs subject to price-caps will be stronger competitors in the market place, further reducing consumer costs of traditional and innovative services.

V. Conclusions

To summarize, the defects with the research design, analysis, inferences and policy recommendations discussed above raise serious questions about the validity of the paper's perceived policy lessons with respect to incentive regulation in telecommunications, and in regulated industries in general.

BELL ATLANTIC
INDUSTRY RATE DECREASES
LEC PRICE CAP REFORM
November 28, 1994

Prices are lower now compared to prices before price cap regulation. The Price Cap Index for interstate access has declined by 11%. However, the Actual Price Index (API) for interstate access rates has declined by approximately 14%, while inflation has increased by 14%. Therefore, the real price decrease has been 28%. The actual decrease in interstate access prices has actually been greater than the 14% because the API does not incorporate the impact of new services when they are first introduced. Many of these new services were for term pricing arrangements, which lowered prices but are not reflected in the APIs.

	API	PCI
Index decrease	14%	11%
GNP-PI change Total per Annual Access Tariff Filings	14%	14%
Real Decrease	**28%**	**25%**